CLAIM AMENDMENTS

Please amend the claims as follows.

1. (Currently Amended) An apparatus for detecting a noise error of a signal comprising:
   a high comparator that references a high voltage limit with the signal and generates an output;
   a low comparator that references a low voltage limit with the signal and generates an output; and
   a circuit that processes the high comparator output and the low comparator output, wherein ~~at least one of~~ both the high comparator output and the low comparator output directly clock ~~clocks~~ the circuit, and wherein the circuit generates an alarm if a noise error is detected.

2. (Original) The apparatus of claim 1, wherein the circuit comprises:
   a high-to-low sub-circuit that detects a noise error during a rising signal transition; and
   a low-to-high sub-circuit that detects a noise error during a falling signal transition.

3. (Original) The apparatus of claim 2, wherein the high-to-low sub-circuit and the low-to-high sub-circuit each comprise:
   a plurality of flip-flop circuits;
   a delay buffer; and
   an XOR logic gate.

4. (Original) The apparatus of claim 1, wherein the high comparator and the low comparator each comprise a differential amplifier.

5. (Original) The apparatus of claim 1, wherein the high comparator and the low comparator each comprise a sense amplifier.

6. (Previously Presented) The apparatus of claim 1, wherein the difference between the high voltage limit and the low voltage limit is substantially 30 mV.

7. (Currently Amended) An apparatus for detecting a noise error of a signal comprising:

a high comparator that references a high voltage limit with the signal and generates an output;

a low comparator that references a low voltage limit with the signal and generates an output, wherein the difference between the high voltage limit and the low voltage limit is substantially 30 mV;

a high-to-low sub-circuit that detects a noise error during a rising signal transition, wherein the high-to-low sub-circuit comprises,

a plurality of flip-flop circuits clocked by both ~~at least one of~~ the output of the high comparator and the output of the low comparator;

a delay buffer; and

an XOR logic gate;

a low-to-high sub-circuit that detects a noise error during a falling signal transition, wherein the low-to-high sub-circuit comprises,

a plurality of flip-flop circuits clocked by both ~~at least one of~~ the output of the high comparator and the output of the low comparator;

a delay buffer; and

an XOR logic gate; and

wherein at least one of the high-to-low sub-circuit and the low-to-high sub-circuit generates an alarm if a noise error is detected.

8. (Canceled)

9. (Previously Presented) A method for detecting a noise error of a signal comprising:

comparing a high signal voltage with a high voltage limit and generating a first signal dependent thereon;

activating an alarm if the high signal voltage is less than the high voltage limit, wherein the activating is dependent on being clocked by the first signal;

comparing a low signal voltage with a low voltage limit and generating a second signal dependent thereon; and

activating an alarm if the low signal voltage is greater than the low voltage limit, wherein the activating is dependent on being clocked by the second signal.

10. (Previously Presented) The method of claim 9, wherein the difference between the high voltage limit and the low voltage limit is substantially 30 mV.

11. (Original) The method of claim 9, wherein the low signal voltage is compared with the low voltage limit by a low-to-high sub-circuit that detects the noise error during a falling signal transition, wherein the low-to-high sub-circuit comprises,

a plurality of flip-flop circuits;

a delay buffer; and

an XOR logic gate.

12. (Original) The method of claim 9, wherein the high signal voltage is compared with the high voltage limit by a high-to-low sub-circuit that detects the noise error during a falling signal transition, wherein the low-to-high sub-circuit comprises,

a plurality of flip-flop circuits;

a delay buffer; and

an XOR logic gate.

13. (Previously Presented) A method for detecting a noise error of a signal comprising:

comparing a high signal voltage with a high voltage limit using a high-to-low sub-circuit that detects the noise error during a falling signal transition, wherein the low-to-high sub-circuit comprises,

a plurality of flip-flop circuits clocked by a signal generated dependent on the comparing,

a delay buffer, and

an XOR logic gate;

activating an alarm if the high signal voltage is less than the high voltage limit;

comparing a low signal voltage with a low voltage limit using a low-to-high sub-circuit that detects the noise error during a falling signal transition, wherein the low-to-high sub-circuit comprises,

a plurality of flip-flop circuits clocked by a signal generated dependent on the comparing,

a delay buffer, and

an XOR logic gate; and

activating an alarm if the low signal voltage is greater than the low voltage limit.